

Serial No. 09/996,183

**REMARKS**

This is a full and timely response to the outstanding final Office Action mailed January 8, 2004. Claims 77-104 have been newly added. Support for newly added claims can be found in the specification in multiple locations, including, but not limited to, pages 15-17. In accordance with an Examiner interview, the Applicants have cancelled claims 1-30 and 51-76, for consideration of newly added claims 77-104, having independent claims 77 and 93. Claims 31-50 have been withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Upon entry of this response, claims 77-104 remain pending in the present application.

In the Office Action, pending claims 1-30 and 51-67 have been preliminarily rejected for obviousness under 35 U.S.C. § 103(a). In addition, the Applicants believe that claims 68-76 were not considered. To alleviate further delay, the Applicants are hereby submitting new claims as mentioned in the Examiner Interview of February 12, 2004. Reconsideration and allowance of the subject application and presently pending claims 77-104 is respectfully requested.

**I. Examiner Interview**

The Applicants first wish to express their sincere appreciation for the time that Examiner Fastovsky spent with Applicants' Attorney and inventor Richard Abbott during a telephone discussion held February 12, 2004

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regarding the outstanding Office Action. The Applicants believe that certain important issues were identified during the telephone discussion, and that they are resolved herein with the newly added claims. During this discussion, the Examiner seemed to indicate that it would be potentially beneficial for the Applicants to make the amendments herein. Thus, the Applicants respectfully request that the Examiner carefully consider this response and the amendments.

As was mentioned in detail by the inventor, Richard Abbott, during the Examiner interview, the present invention, as is better illustrated by the currently added claims, creates a resistive heater by determining a required and/or desired resistivity and forming a resistive heater layer to match that value. This is a novel way to make a heater because a new degree of freedom, namely, controlling resistivity, is available to the designer. Ordinarily, the resistivity is a fixed material value and the heater designer must adjust other parameters such as element length and geometry. There is no difference in the case of Ros, who describes a method using a fixed reactant gas composition, *i.e.* that of air, and necessarily obtains a fixed resistivity as a result.

In the practice of this new method, the variation of the resistivity of various metals in reaction with various gases is first tabulated. In the Applicants' practice, when a heater is to be fabricated, its power and voltage are set; then the component to be heated is examined and a heater coating

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geometry is designed. From the geometric and electrical data, the correct resistivity value can be easily calculated. The heater material is then selected together with the reactant gases and their flow rates.

## II. Newly Added Claims

In accordance with the conversation and explanation during the Examiner Interview, the Applicants have added claims 77-104, which are specifically directed to at least the abovementioned novel features of the invention, thereby further defining and/or clarifying the scope of the invention. Specifically, the added claims are focused on providing a resistive heater, in addition to the resistive heater itself, having a resistive heater layer, where the resistive heater layer has a desired resistivity. The desired resistivity of the resistive heater layer is obtained by selecting a metallic component and at least one reactant gas so that when combined, the desired resistivity of the resistive heater layer results; promoting reaction of the metallic component and the reactant gas, thereby combining the metallic component and the reactant gas, resulting in a free metal and reaction product; and depositing the combined free metal and reaction product on the substrate to form the resistive heater layer having the desired resistivity.

## III. Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

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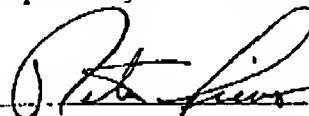
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CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, the Applicants respectfully submit that all objections and rejections have been traversed, rendered moot and/or accommodated, and that presently pending claims 77-104 are in condition for allowance. Favorable reconsideration and allowance of the present application and the presently pending claims are hereby courteously requested. If in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (603) 668-1400.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to number (703) 872-9306 on February 13, 2004.



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